

ABSTRACT

It is to provide a lithium ion capacitor having a high energy density, a high output density, a large capacity and high safety.

5 A lithium ion capacitor comprising a positive electrode, a negative electrode and an aprotic organic solvent solution of a lithium salt as an electrolytic solution, wherein a positive electrode active material is a material capable of reversibly supporting lithium ions and anions, a negative electrode active material is a material capable of reversibly supporting lithium ions, and the potentials of the positive electrode and the negative electrode are at most 2.0 V after the positive electrode and the negative electrode are short-circuited, 10 characterized in that the positive electrode and the negative electrode are respectively made by forming electrode layers by the positive electrode active material and the negative electrode active material on both sides of a positive electrode current collector and a negative electrode current collector each having pores penetrating from the front surface to the back surface, the capacitor has such a cell structure that the positive electrode and the negative electrode are wound or laminated, and the outermost portion of the wound or 20 laminated electrodes is the negative electrode.